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| 09/633,059      | 08/08/2000  | Dong-Woo Kim         | 678-484- (P8783)    | 3945             |

7590

10/21/2003

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| EXAMINER |
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MILLER, BRANDON J

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| ART UNIT | PAPER NUMBER |
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2683

DATE MAILED: 10/21/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/633,059

Applicant(s)

KIM, DONG-WOO

Examiner

Brandon J Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 8/13/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall in view of Birrell and Freadman.

Regarding claim 1 Hall teaches a mobile telephone for storing and reproducing digital audio data with a keypad having a plurality of alphanumeric keys used for commanding a mobile phone to make mobile communication and to manipulate digital audio data (see col. 2, lines 15-25 & 66-67 and col. 3, lines 1-15, 35-60). Hall teaches a phone module for controlling ordinary functions of a mobile phone (see col. 2, lines 15-25). Hall teaches according to a key input through a keypad enabling the sound of digital audio data to be reproduced according to a key input through a keypad (see col. 3, lines 1-15, 35-60). Hall also teaches a mobile phone that stores digital audio data and playing or stopping sound reproduced from stored digital audio data (see col. 2, lines 15-25, col. 3, lines 45-49 & 56-62 and col. 6, lines 25-40). Hall does not teach enabling digital audio data to be downloaded from a personal computer to a mobile phone, an RS-232 connector for connecting a phone module and a personal computer to exchange digital audio data and other data, or rewinding and fast-forwarding the sound reproduced. Birrell teaches downloading digital audio data from a personal computer using an adapter (see col. 4,

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lines 42-45). Birrell also teaches storing digital audio data for playing or stopping sound reproduced from stored digital audio data (see col. 7, lines 17-20 & 60-63), for rewinding sound reproduced, and for fast-forwarding the sound reproduced (see col. 5, lines 31-33 and FIG. 1). Freadman teaches an RS-232 connector for connecting a phone module and personal computer to exchange digital data and other data (see col. 2, lines 62-67 and col. 4, lines 35-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include enabling digital audio data to be downloaded from a personal computer to a mobile phone, an RS-232 connector for connecting a phone module and a personal computer to exchange digital audio data and other data, and rewinding and fast-forwarding the sound reproduced because this would allow for a cellular communications system that provides digital audio data to wireless subscribers.

Regarding claim 2 Birrell teaches digital audio data that is MPEG (Moving Pictures Engineering Group) ½ Layer-3, or MP3 (see col. 6, lines 1-3).

Regarding claim 4 Hall teaches a method for reproducing digital audio data in a mobile phone and selectively reproducing or playing digital audio data stored in a memory device (see col. 3, lines 5-9 & 55-63). Hall teaches a mobile phone that includes a phone module for mobile communications (see col. 2, lines 15-25). Hall teaches a mobile phone that includes a digital audio module for storing digital audio data to memory, and using stored digital audio data to produce audible sounds (see abstract, col. 3, lines 56-63 and col. 6, lines 25-50). Hall does not teach a mobile phone that can be connected to a personal computer by means or an adapter. Birrell teaches a reproducing or playing digital audio data stored in a memory device (see col. 7, lines 17-20 & 60-63). Birrell also teaches downloading digital audio data from a computer (see

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col. 4, lines 42-45). Freadman teaches a phone module that can be connected to a personal computer by means of an adapter (see col. 2, lines 62-67 and col. 4, lines 35-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include selectively reproducing or playing a digital audio data stored in a memory device because this would allow for a cellular communications system that provides digital audio data to wireless subscribers.

Regarding claim 5 Hall, Birrell and Freadman teach a device as recited in claim 2 and is rejected given the same reasoning as above.

Regarding claim 6 Birrell teaches selecting digital audio data play mode from a main menu, displaying a detailed menu for playing digital audio data, and sequentially playing digital audio data upon selecting a play key in a detailed menu (see col. 5, lines 15-19 and col. 7, lines 17-20 & 60-63).

Regarding claim 7 Birrell teaches rewinding digital audio data upon selecting a rewind key (see col. 5, lines 31-33).

Regarding claim 8 Birrell teaches replaying digital audio data and a rewind key for track scanning functions (see col. 5, lines 31-33 and col. 7, lines 62-65).

Regarding claim 9 Birrell teaches a fast forward key for controlling track scanning functions (see col. 5, lines 31-33).

Regarding claim 10 Birrell teaches a device as recited in claim 9 and is rejected given the same reasoning as above.

Regarding claim 11 Birrell teaches fast-forwarding a playing position of audio data and controlling track scanning functions (see col. 5, lines 31-33).

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Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hall in view of Birrell, Freadman, and Campisano.

Regarding claim 3 Hall, Birrell, and Freadman teach a device as recited in claim 1 except for a memory device for storing MP3 digital audio data, a central processing unit for controlling the MP3 audio data received from a phone module to be stored in or reproduced from a memory device, an MP3 decoder for de-multiplexing MP3 audio data into control data and audio data for Huffman-decoding audio data from run-length coded compressed signals to original length signals, subjecting each sub-band of a signal to re-quantization and re-scaling according to control data, recovering result data by an inverse discrete cosine transformation, inversely filtering each sub-band to finally obtain PCM (Pulse Code Modulation) data, or a digital to analog converter for converting PCM audio data delivered from a MP3 decoder into corresponding analog audio data. Birrell does teach a memory device for storing MP3 digital audio data (see col. 4, lines 40-43). Birrell does teach a processing unit for controlling the MP3 audio data received to be stored in or reproduced from a memory device (see col. 4, lines 10-12 & 40-43 and col. 5, lines 9-14). Birrell does teach a digital to analog converter for converting audio data delivered from a MP3 decoder into corresponding analog audio data (see col. 5, lines 65-67 and col. 6, lines 1-4). Birrell does teach decompressing audio data from compressed signals to original length signals (see col. 5, lines 23-24 & 65-67). Hall does teach a decoder for de-multiplexing audio data into control data and for decoding audio data from compressed signals to original length signals, recovering a digital audio signal according to control data, and recovering data by obtaining demodulated a received data signal (see col. 2, lines 20-51). Campisano teaches data for Huffman decoding data from a compressed signal, subjecting a

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signal to re-quantization and re-scaling, and PCM data (see col.4, lines 45-48 & 63-65, col. 6, lines 51-54 and col. 9, lines 5-8). It would have been obvious to one skilled in the art at the time the invention was made to make the invention adapt to provide known MP3 decoding methods including a memory device for storing MP3 digital audio data, a central processing unit for controlling the MP3 audio data received from a phone module to be stored in or reproduced from a memory device, an MP3 decoder for de-multiplexing MP3 audio data into control data and audio data for Huffman-decoding audio data from run-length coded compressed signals to original length signals, subjecting each sub-band of a signal to re-quantization and re-scaling according to control data, recovering result data by an inverse discrete cosine transformation, inversely filtering each sub-band to finally obtain PCM (Pulse Code Modulation) data, or a digital to analog converter for converting PCM audio data delivered from a MP3 decoder into corresponding analog audio data because this would allow for a wireless transmitter and digital receiver for transmitting and receiving digital audio information.

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bottum U.S Patent No. 6,014,569 discloses a mobile interactive radio.

Ausems U.S. Patent No. 6,434,403 discloses a personal digital assistant with wireless telephone.

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Alperovich U.S. Patent No. 6,317,609 discloses a system and method for transporting digital speech and digital pictures.

Suzuki U.S. Patent No. 6,556,665 discloses a portable telephone set.

Stamegna U.S. Patent No. 6,085,078 discloses a vehicular audio system incorporating detachable cellular telephone.

Ganesan U.S. Patent No. 5,758,294 discloses a radio port in a wireless personal communication system.

Braitberg U.S. Patent No. 5,479,479 discloses a method and apparatus for transmission of and receiving signals having digital information using an air link.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J Miller whose telephone number is 703-305-4222. The examiner can normally be reached on Mon.-Fri. 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

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October 9, 2003

  
WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
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